AMENDMENTS TO THE CLAIMS

Please cancel claims 1-42 and 57-81 and amend claims 43 and 50 according to the following listing of claims:

1-42. (cancelled)

43. (currently amended) A process for preparing a p-n junction having a p-type ZnO film and an n-type film wherein the net acceptor concentration is at least about 10^{15} acceptors/cm^3, the process comprising:

cleaning a substrate;

adjusting the temperature of the substrate in a ~~the~~ pulsed laser deposition chamber to between about 200°C to about 1000°C;

growing a p-type ZnO film on the substrate by directing an excimer pulsed laser beam onto a pressed ZnO powder pellet containing a p-type dopant element to grow a p-type ZnO film containing at least about 10^{15} ~~10^{18}~~ acceptors/cm^3 on the substrate; and

growing an n-type film on top of the p-type ZnO film by directing an excimer pulsed laser beam onto a pressed powder pellet containing an n-type dopant element to grow an n-type film on the p-type ZnO film on the substrate.

44. (original) The process as set forth in claim 43 wherein the n-type film has a thickness of between about 0.5 and about 3 micrometers and the p-type film has a thickness of between about 0.5 and about 3 micrometers.

45. (original) The process as set forth in claim 43 wherein the p-type dopant element is arsenic and the n-type dopant element is aluminum.

46. (original) The process as set forth in claim 43 wherein the p-n junction is a homoepitaxial p-n junction

wherein the p-type film consists of arsenic and ZnO and the n-type film consists of an n-type dopant element and ZnO.

47. (original) The process as set forth in claim 43 wherein the p-n junction is a heteroepitaxial p-n junction wherein the p-type film consists of arsenic and ZnO and the n-type film contains an n-type dopant and has an energy band gap different than ZnO.

48. (original) The process as set forth in claim 43 wherein the substrate is cleaned in the pulsed laser deposition chamber using a pulsed excimer laser.

49. (original) The process as set forth in claim 43 wherein the net acceptor concentration is at least about 10^{16} acceptors/cm^3.

50. (currently amended) A process for preparing a p-n junction having a p-type ZnO film and an n-type film wherein the net acceptor concentration is at least about 10^{15} acceptors/cm^3, the process comprising:

cleaning a substrate;

adjusting the temperature of the substrate in a ~~the~~ pulsed laser deposition chamber to between about 200°C to about 1000°C;

growing an n-type film on top of the substrate by directing an excimer pulsed laser beam onto a pressed powder pellet containing an n-type dopant element to grow an n-type film on the substrate;

growing a p-type ZnO film on the n-type film by directing an excimer pulsed laser beam onto a pressed ZnO powder pellet containing a p-type dopant element to grow a p-type ZnO film containing at least about 10^{15} ~~10^{18}~~ acceptors/cm^3 on the n-type film.

51. (original) The process as set forth in claim 50 wherein the n-type film has a thickness of between about 0.5

and about 3 micrometers and the p-type film has a thickness of between about 0.5 and about 3 micrometers.

52. (original) The process as set forth in claim 50 wherein the p-type dopant element is arsenic and the n-type dopant element is aluminum.

53. (original) The process as set forth in claim 50 wherein the p-n junction is a homoepitaxial p-n junction wherein the p-type film consists of arsenic and ZnO and the n-type film consists of an n-type dopant element and ZnO.

54. (original) The process as set forth in claim 50 wherein the p-n junction is a heteroepitaxial p-n junction wherein the p-type film consists of arsenic and ZnO and the n-type film contains an n-type dopant and has an energy band gap different than ZnO.

55. (original) The process as set forth in claim 50 wherein the substrate is cleaned in the pulsed laser deposition chamber using a pulsed excimer laser.

56. (original) The process as set forth in claim 50 wherein the net acceptor concentration is at least about 10^{16} acceptors/cm^3.

57-81. (cancelled)